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## Original Articles

### A CONTRIBUTION TO THE ETIOLOGY OF POMPHOLYX.

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TO Tilbury Fox* and Hutchison† are we indebted for taking this disease out of the much overcrowded and still unknown group of eczema. These two clinicians described it about the same time; both initial descriptions, according to Duhring, being derived from the same patient. Fox‡ called the disease dysidrosis, believed that it was due solely to a change in the sweat apparatus and that the vesicles were formed by an obstruction along the course of the duct, thus retaining the sweat and preventing its normal outflow. Hutchison on the contrary did not agree with this theory, but held that the vesicles had nothing to do with the sweat duct. As bullæ were often formed and as the disease, in the large majority of cases, was limited to the hands, he gave to it the name of cheiro-pompholyx. Later Robinson§ studied the histology of the affection, corroborated Hutchison's statements, but preferred the name pompholyx, as the eruption often occurred on the arms and feet, thus by this term giving it a wider anatomic distribution; this name is preferred by the majority of authors and will be thus used throughout this article.

There is still a great deal of controversy over the pathology of the disease, some believing it to be a dysidrosis; others, a form of eczema; among the latter is Kaposi, who clings to the elder Hebra's idea.

The eruption is, in my experience, always preceded by a more or less short period of lowered vitality, the patient not feeling exactly up to his usual standard of health; or, in those who constantly suffer from a general and mild vaso-motor derangement, as is evidenced in them by cold sweaty hands and feet, alternate flushing and pallor of the face, irritable and easily excited pulse, with or without cardiac palpitation.

*Path. Trans., Vol. XIX (1878), p. 264.
†Illustrations of Clinical Surgery, 1876.
‡Fox and Crocker, Med. Times & Gazette, 1878, T. i. p. 632.
§Archives of Derm., Vol. III (1877), p. 289.

Locally it is preceded by a slight tingling and burning of the regions to be affected, usually the hands and feet. The eruption appears as groups of small vesicles (a few may be discrete), deeply imbedded in the skin, scattered over the palmar surface or between the toes or fingers, seldom on the backs of the hands, though more extensive regions may be affected. Duhring* reports a case involving the forearms. The vesicles are flat, containing a clear liquid, and as they become larger attain a "greyish translucent color," being compared by Hutchison to boiled sago grains in the skin. They often coalesce, forming bullæ. The lesions may be ruptured by violence, but they usually dry up and become absorbed, forming a scale which is gradually thrown off with the exfoliating skin. The vesicles or bullæ may become opaque, when the skin presents some signs of inflammation, but the disease itself never becomes inflammatory, consisting merely of vesicles or bullæ in groups, with slight desquamation of the epidermis, accompanied by tingling or burning. Living† has noticed some trophic change in the nails and gives that as one of the diagnostic points. When the eruption is very profuse, there is some swelling, the hands or feet becoming quite painful, red and swollen, presenting more the appearance of eczema, probably from secondary infection. The eruption is always symmetrically distributed, and will be seen in many cases to be limited to the terminal distribution of certain nerves; one or more of the nerves to a part being affected.

The disease is to be differentiated from eczema by the absence of inflammatory symptoms, weeping, scaling, itching, flatness of the vesicles, their grouping and tendency to form bullæ, with resistance to rupture.

From scabies it is distinguished by the involvement of limited regions and the palmar surfaces; absence of papules with tracks of itch mite.

The hydrocystoma of Robinson‡ and Jackson§ is a cystic condition of the sweat duct occurring on the face of washerwomen, in which the lesions are not grouped, but isolated, and remain clear and transparent.

*Cutaneous Med., Part II (1898), p. 469.
†Diagnosis of Skin Diseases, 1879, p. 82.
‡Jour. of Cut. & Ven. Dis., Aug., 1893.
§Jour. of Cut. & Ven. Dis., Jan., 1886.

From sudamina or vesicles produced by excessive sweating and maceration of the epidermis, it is diagnosticated by the superficial, discrete, and clear "dew drop" appearance of the sudamina. There are, however, deeper formed sudamina vesicles, when the epithelium is deeply swollen and abnormally cornified from excessive sweat which impedes the outflow of the latter; but these lesions are discrete, not grouped, and come and go more rapidly, the vesicle disappearing as the sweat finally escapes.

To Robinson,* Williamson,† Sante,‡ and others are we indebted for the true pathology of pompholyx; the first showing that the fluid of the vesicles is from the capillaries of the papillæ and not retained sweat. The histologic findings of Robinson are concisely as follows: The vesicles are situated over the papillæ and are formed by an outpouring of the serum from the capillaries which, collecting in the epidermis, causes a degeneration of a few cells, and by the increase of fluid a vesicle is formed near the middle of the epidermis. The walls of the vesicle consist of the flattened out epithelial cells, which are often pressed into mere bands between two vesicles. Thus the wall or partition may break between two or more chambers, forming a very large vesicle or bulla by increase of fluid. The capillaries and superficial vessels are dilated, and later leucocytes leave the vessels to cluster about them or follow the flow of serum toward the epidermis, invading the vesicle chambers, enough sometimes to render them opaque or forming thickly in the lower-most layers of the rete.

Unna§ agrees with Robinson, but classes the disease among the infectious inflammations, having found a bacillus in the sections from the two cases examined, which he thinks is the cause of the disease. This bacillus is found in the top of the vesicle, where we would expect to find organisms from secondary infection, which is probably the case in Unna's sections, as the soaked cells and serum present excellent media for the growth of organisms with which the skin is at all times infested. Furthermore, the picture of the later changes described by Robinson (*i. e.*, the leucocytosis) is only explained by the chemotatic influence of organisms which are propagating in the diseased epidermis. In the early changes no marked inflammation is seen clinically or histologically, not till later, when we would expect the aforesaid infection.

Crocker,‖ who inclines towards Fox's early views, found vesicles in the course of the sweat ducts, but the majority of them were situated above the papillæ and not in relation to the duct. It is admitted by all clinicians that this disease is associated or complicated by excessive sweating, but from my observations this is not the pathologic factor, but may complicate the clinical and histologic picture by deeply-formed sudamina vesicles, which was probably the case in Crocker's sections.

Therefore, as Living* truly says, "when a deep-seated vesicle is formed under thick or more or less transparent cuticle, such as that of the palmar surface of the hand or fingers, it is not characteristic of any one disease." From this truism we can very readily see how the clinical and histologic conditions may widely differ. The varied discussions emanating from this fact have probably been brought about by observers seeing diseases histologically and etiologically different, classing them as pompholyx. At any rate, five of these which have been confused stand out clearly: 1, neurotic eczema; 2, pompholyx; 3, deep-seated sudamina; 4, hydrocystoma; 5, infectious vesicles of Unna.

Most authors agree that pompholyx is a neurosis, a a term loosely and widely used, meaning, I presume, a functional derangement of the nervous system in general; but from a dermatologic standpoint, the vaso-motor system in particular.

I have seen and studied a number of cases of pompholyx and believe it to be caused by a derangement of the vaso-motor system, either functional or organic, the coloring of the different histologic pictures being due to mechanic or chemical external influences, the latter (chemical) being bacterial in origin. Histologically and clinically the symptoms are essentially vaso-motor, or neurotic, pointing always to a cause behind the neurosis, necessitating a careful study of the history of the case and the individual, his blood and excretions, not relegating it to the obscure closet of neuroses. The administration of arsenic, for the disease is often troublesome from its frequent relapses, secondary inflammatory symptoms and more or less serious condition toward which the patient may be trending, the skin symptoms being, as Leloir says, the mirror to the system—reflecting the graver conditions.

The report of the following five cases will illustrate the meaning of the above remarks:

Case I. Mr. L., age 36 years; an exceedingly intelligent business man, in charge of large interests; he was seemingly in good health previous to this summer, when he had an attack of herpes zoster on the chest, for which he was treated in Chicago; on his vacation, a week after the zoster, he noticed some blisters upon the right foot, which he attributed to walking and irritation of the shoe; on his return home he did not feel well, and soon afterwards there appeared on his thumbs and fingers a number of vesicles, accompanied by burning and tingling, for which he consulted me. It was a typical case of pompholyx. The vesicles were grouped along the course of the radial and median nerves, in the hands and the anterior

*Ibid.
†Brit. Jour. Derm., Oct., 1891.
‡Monatsh. für prakt. Derm., Bd. XV., p. 93.
§Histopathology of Dis. of the Skin, p. 179.
‖Diseases of the Skin, 1893, p. 198.

*Diagnosis of Skin Diseases, 1879, p. 79.

tibial and internal plantar on the feet; on the legs there was a peculiar trophic change of the skin, an exfoliation of the epidermis in furfuraceous scales, which came off in great abundance, the skin being harsh and dry, with superficial fissuring and without any signs of inflammation. He also complained of a burning sensation in the region of the ethmoidal and frontal cells. The patient was paler than usual; hands cold, but not clammy; the urine was normal; the red blood cells contained the hyaline and pigment bodies of the malarial plasmodium. No local treatment was given, but large doses of quinin were administered internally, with a rapid and complete disappearance of the skin symptoms and a corresponding improvement in the general condition.*

Case II. Walter B., 23 years; driver; came to the skin clinic at Marion-Sims College of Medicine with typical pompholyx on hands, which were also moist and clammy; patient states that he had been feeling somewhat ill for a week or so; chilly and tired, with headaches in the evening; urine normal; blood showed plasmodium; no local treatment; eruption cleared up in a few days under quinin.

Case III. This case was reported by me in an article on "Eczema Craquelé," which is a peculiar, probably trophic, fissured and pruritic condition of the skin. Patient is a trained nurse, presenting with the eczema craquelé a typical case of pompholyx and symptoms of low fever at periodic intervals. Blood contained plasmodia, which disappeared upon the administration of quinine, together with the pompholyx. The eczema craquelé, however, remained for sometime, being probably due to other causes.

Case IV. Mr. S., minister, 28 years; had been working hard in his parish, to which he attributed his present condition. Was feeling badly, losing flesh, suffering with headaches and was very nervous. Perspired excessively, which seemed to weaken him. The patient was pale, anemic, easily excited, costive; he suffered from flatulence and intestinal fermentation. His hands were cold and clammy, and covered in the usual localities by an eruption of pompholyx. On the feet was a similar condition which, from secondary infection, was inflamed and painful. On the ears there was a similar eruption, concerning which I was in doubt; whether it was a neurotic eczema or pompholyx, I could not decide. No organism could be found in the blood. The urine presented a marked indican reaction, but was otherwise normal to the usual quantitative tests.

This case was exceedingly stubborn; several relapses with general impaired condition of the health prolonging it from May till September, when he was discharged very much improved in general health and free from the eruption. The treatment followed was directed toward the intestinal fermentation and constipation, to which I attributed the indicanuria, as a symptom, and the vaso-motor derangement. Sulphate of magnesia, an occasional dose of calomel, diet and water was the principal treatment, with a bitter tonic towards the end. The local treatment was only protective and soothing.

Case V. Dr. H., 30 years, an intelligent practicing physician, consulted me about a pompholyx on the hands. I had known him for some time and at once could see he was not looking as well as usual. His face was thin and sallow, eyes dull, tongue coated and breath fetid. Hands were cold and clammy; did not sweat profusely. Was costive, stomach out of order and complained of flatulence. I suggested the possible toxic origin of the eruption and likewise of his general ill feeling, and advised that his blood be examined for malaria. Some weeks elapsed, when I again met the gentleman; his general appearance was greatly improved and the eruption was gone. He related the following interesting facts: His blood upon examination disclosed no hematozoa; upon thinking about his case he remembered he had eaten crabs and drank several high-balls (whiskey and seltzer) a few evenings before his illness, and that a similar diet had preceded a like attack a year or so before; he therefore considered himself toxic and proceeded with salts and diet to eliminate the toxemia and its producers, with quick and progressive improvement of his condition.

The etiologic factors in these five cases are obvious. In the first three the toxins of the malarial plasmodium produced a vaso-motor or trophic derangement by acting either centrally or peripherally. As Cohnhem* has stated that every motor and sensory nerve is a trophic one through its effects upon metabolism, and therefore nutritive, we have probably a trophic as well as vaso-motor effect in all these conditions. In case IV. the etiology is not clinically so convincing. The presence of indican when in marked quantities in the the urine is generally pathognomonic of intestinal fermentation,† except when due to "the decomposition of albumen in other cavities" and amyloid degeneration.‡ The action of the colon bacillus upon albuminous food stuffs is the greatest source of this aromatic toxin, as lately proved conclusively by Herter. Singer§ has reported indican occurring in urticaria and other known toxic vaso-motor disturbances of the skin. In this case the source of the marked indican reaction could only be intestinal, therefore I believed it pointed to the cause of the condition, and by following out treatment on this line was gratified by the results, though slowly obtained.

*Thorough examination of vesicles failed to disclose presence of Unna's bacillus or other bacteria.

*General Path., Vol. II. (New Sydenham Soc. Trans.)

†v. Jasch, Clinical Diagnosis, English Trans. (1897), p. 335.

‡N. Y. Med. Jour., July 16th and 23d, 1898.

§Wiener klin. Wochenschr., VII., 1899. Quoted by v. Jasch.

In case V. the observation was made upon himself by an experienced and very intelligent physician, which, by the quick results obtained, makes the case convincing.

The first case reported discloses three very interesting facts, namely, herpes zoster, pompholyx and a peculiar desquamation of the skin occurring in the same patient at short intervals and during a period of ill being. Pompholyx has been allied to herpes,* and it is interesting in this case to find it following an attack of zona, the toxins of the malarial organism being the causative factor in both eruptions.

J. M. Winfield† and Colombini‡ both report cases of zoster caused by malarial infection, the former reporting seven cases in which the organism was found in the blood. Therefore if the toxins of the plasmodium malariæ can produce herpes§ and herpes zoster, why not this neurotic eruption? Strong affirmative evidence, I believe, is in the fact that both eruptions occurred in the same individual in which the malarial organism was found.

The other trophic changes which often occur in pompholyx are excedingly interesting and assist in demonstrating its neurotic source. Living has noticed changes in the nails, which I also have seen; it consists of a brittleness and splitting of the free margins with some roughening longitudinally. We often also see superficial desquamations of the skin as described in Case I.

Robinson‖ says the disease is histologically closely allied to neurotic eczema. The eruption on the ears of Case IV. was almost impossible to diagnose positively, which shows how closely these cases are also clinically allied to that disease, Hardy, Kaposi and Hallopeau believing it to be an acute eczema.

Pompholyx is a relapsing disease, recurring once or several times a year, in many cases, for several years. This may often be caused by a reinfection each time or a reawakening of an old infection, when malaria is the excitant, as I believe the plasmodia protect themselves in the system and internal organs in chronic infection. When the disease is due to intestinal toxemia, this relapsing can easily be explained by the usual irregular course of that condition. Often the fall and spring are the seasons for bowel derangements and new sources of toxemia, thus explaining the frequency of relapses at this time. In conclusion, I wish to assert that I do not consider that all cases of pompholyx are due to toxemia (intestinal, malarial or from other sources), but merely believe that condition to be an etiologic factor in a number of cases. Of course, various other causes, both organic and functional, can produce this vaso-motor condition.

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*Jackson: Dis. of Skin, 1899, p. 440.

†N. Y. Med. Jour., April 6, 1895.

‡Commentario Clinico delle Malatte cutanie e genito-urinarie, Nos. 1, 2, 3, 4, 1893.

§A common occurrence.

‖Morrow's System of Gen.-Urinary Dis., Syph. and Derm., Vol. III., p. 186.

## ABSCESS OF THE LUNG*

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THREE practical questions are suggested by this topic: I. Is abscess of the lung more frequently recognized than formerly? II. Is the radical treatment by operation justifiable? III. What are the indications for operation?

I. Notwithstanding the fact that many of our text-books, even of recent date, have little to offer upon this subject, the reader of current medical literature will certainly answer this question in the affirmative. The papers of Babcock, Fairchild, Fenger, Osler and Murphy, and the researches of Leube, Sutton, Ogston and others, are too important to be overlooked by the thoughtful student of medical science.

It is well at the outset to limit to some extent the use of the term pulmonary abscess. It is not my purpose to include perforating pus from outside organs, as the liver or the pleural cavity, nor the pus formation of advanced bronchiectasis, nor the multiple abscesses of diffused tuberculosis or broncho-pneumonic infiltration. On the other hand, we are justified by the symptomatology, as well as by the therapeutic indications, to include all circumscribed pus cavities originating within the lung, whether of simple pyogenic origin or due to the mixed infection of tuberculosis or to gangrene. In pulmonary abscesses from these different causes the distinctive diagnosis is interesting, but in considering the advisibility of operation they are one.

In answer to the first question, then, I believe that it is a fact that abscess of the lung is more frequently recognized than formerly, and that as a definite pathologic lesion it is beginning to receive that special attention to which by its frequency and importance it is entitled. I also believe that pulmonary abscess may be as positively diagnosed and as successfully treated as the pus conditions following appendicitis. Osler tells us that the diagnosis is not difficult, and in many cases this is correct; but on the other hand it is not always easy and requires careful weighing of all the evidence to be obtained from the history, symptoms, physical signs, and negatively by exclusion. I well remember one case in which an abscess cavity filled with pus resisted all attempts to differentiate between the actual condition and consolidation, till one day it opened into a bronchial tube and the problem was solved.

In reaching a conclusion in these cases the etiology is an important factor. While there may be many

*Read before the St. Louis Medical Society, Nov. 4, 1899.

causes that predispose to pulmonary abscess, the positive causes, aside from traumatism and foreign bodies, are mainly two: (a) inflammation, simple, tubercular, or rarely syphilitic, within the lung; (b) embolism from right-sided endocarditis, or from the general systemic veins. I believe that we may also have these conditions combined. In lobar pneumonia, for instance, there is not only the local inflammation within the pulmonary structures, but often a marked depression of the vaso-motor system and of the motor ganglia of the heart. As a consequence, there is, in addition to the local pneumonia, a distension of the pulmonary vessels, oftentimes of the right ventricle itself, and a greatly diminished circulatory force within the lung, conditions that must favor obstruction in either the bronchial or pulmonary system, with destruction or infection of the tissues beyond the occluded point. Several cases of circumscribed abscess of the lung that I have examined closely gave no evidence of pre-existing pneumonia, while everything favored the hypothesis that the local lesion was the result of infarction from embolism.

A few points in the etiology of pulmonary abscess may be noticed in passing. The first is the statement in some of our books that local inflammations in the lung cause the single abscess, while the results of embolism are multiple. Not always is the latter proposition correct. There certainly may be the blocking of a single branch of a bronchial artery from embolism, sufficient to cut off all supply from that portion of the pulmonary structure beyond, causing gangrene; so also we may have a single branch of the pulmonary artery plugged by an infectious embolism, and consequent infarction and the disintegration of the surrounding structures.

A second thought, closely associated with the etiology of pulmonary abscess is, that while the occlusion of a bronchial artery is more likely to produce gangrene than an occlusion of a pulmonary branch, yet the latter condition may also cause gangrene by the infarction and often consequent apoplexy, destroying the bronchial circulation and thus cutting off nutrition.

While we then may believe that an embolus in either the bronchial or pulmonary systems may produce gangrene, is it not also probable that an embolus in a bronchial branch may produce an abscess? The fragments from this form of endocardiac inflammation may have septic properties and may lead to suppurative infarctions. Why not in a small bronchial artery as well as elsewhere?

Again we may ask the question as to the relations between a slowly resolving pneumonia and pulmonary abscess. Generally, the influences of the local inflammation may be directly the cause of the consequent suppuration, and we nearly always find the abscess at the site of the pneumonia. I believe it possible, however, for septic material to be carried from the lung itself during the processes either of suppurative pneumonia or pulmonary tuberculosis, to pass through the pulmonary venous system, through the left heart into the aorta, and by way of the bronchial arteries back into the lung, and so produce infarction and infection. My reason for this hypothesis is the result of an autopsy in a case of lobar pneumonia, which had become suppurative, and the finding of a hemorrhagic infarct and tissue degeneration in the opposite lung, in which were no postmortem evidences of pneumonia.

Believing embolism either of a bronchial or pulmonary arterial branch to be a frequent cause of abscess in the lung, I would not underestimate the effect of local inflammation as a causative agent, for after all most of the cases of abscess are the result of such conditions. This is what we might expect where restoration to the normal is delayed. In either type of pneumonia, the lining of the vesicle is destroyed, and if a suppurative process follows incomplete resolution, it is not hard to understand how the pus-bathed vesicular wall, with impaired blood and nerve supply, may break down and the vessels coalesce in abscess cavities.

The close parallelism which exists in the etiology of abscess and that of gangrene is also found in the study of the pathology. It is claimed by some that where the abscess is the result of embolism, that in the obstructed vessel are found specific micrococci having pathogenetic or pyogenetic force. Ogston found micro-organisms present in a large number of cases of abscess of the lung, and other observers have made the same statement. In one case of my own there were colonies of the bacillus tuberculosis, the abscess being undoubtedly tubercular, although the rest of the lung was not infected so far as could be determined. After the destructive tendency has been once established, the conditions of progress do not vary much from what is known of abscesses in any soft tissue. The main difficulty in cases of pulmonary abscess is the frequent close resemblance to gangrene. It is fortunate for us that it is not necessary to establish the differential diagnosis in reference to treatment. Whether it be a simple abscess, destructive gangrene, or, as often happens, gangrene with liquefaction, the indications for interference are generally plain enough.

Among the diagnostic points are some that are common to both conditions. Babcock, however, says that while they have much in common as regards causation and symptomatology, a sharp dividing diagnostic line cannot be drawn. There are four cardinal symptoms found in both: pain, dyspnea, cough and fever; yet all these may be found in emphysema and two or more in other conditions within the lung. Fairchild points out the resemblance to consolidation of the lung, hydrothorax and encysted emphysema, and adds that the presence of chills, morning and evening tempera-

ture, and the symptoms of septic infection are significant though not reliable.

In a typical case, the diagnosis might be made upon the following evidence: History of pneumonia or other inflammatory process with slow resolution, symptom of pain, generally at the base or middle of the lung, dyspnea varying in degree, fever except in very chronic cases where the abscess may have become encysted, and cough almost always present. The expectoration is an important factor in the diagnosis. If the cavity has no outlet it cannot be characteristic; but when a rupture into a bronchial tube occurs it becomes free, with probably a lessening of the pain and dyspnea.

In pulmonary abscess, fragments of the lung tissue and yellow elastic fibre from the broken intra-vesicular wall will be found, and the pus may not otherwise present any very different appearance or properties to those of other pyogenic cavities. There tubercular bacilli may be found; indeed, I think these are present in the greater number of cases following pneumonia On the other hand, the expectoration in gangrene is most markedly characteristic.

In addition to the froth and the mucus from the bronchial tubes, there will be a deposit of thick greenish masses of elastic fibre, disintegrated blood cells, and all of the constituents of sphacelated parenchyma. The horrible odor of gangrene of the lung can never be forgotten.

The physical signs of pulmonary abscess are valuable, but without the history they may not be conclusive. Dullness more or less complete, according to the depth of the cavity, in some cases increased fremitus, and the absence of the vesicular and increase of the bronchial murmurs are to be looked for. When there has been a partial emptying, the characteristic percussion sound and amphoric respiration may be noted.

II. Is the radical treatment by operation justifiable? A positive affirmation, with our present knowledge, cannot be given in all cases, but that many are operable—more than are now recognized—I firmly believe. The old surgical dictum, that wherever there is pus it should be evacuated, holds good here. If nature does not provide the means of exit, the surgeon must, if possible, find a way, provided always that the indications are at all favorable. A few among the many proofs of the value of this position are the records of Fenger and Hollister, six cases (*Am. Jour. Med. Sciences*, 1881); Babcock, five cases (*Jour. A. M. A.*, June, 1898); Fairchild, two cases (*Ibid*, September, 1899); Ruenberg, seventeen collated case (*Lond. Med. Record*, 1881), and, if I may be permitted to mention them, two cases of my own, reported in the *Jour. A. M. A.* for March, 1891. To these two I can now add the history of several others.

III. Granting then that the operation is sometimes justifiable, what are the indications? Very briefly these: If the history points to a pneumonia, or even to gangrene, rather than to pyemia as the origin; if the diagnosis is fairly well made out; if the evidence is that the abscess is single rather than multiple, and if there is reason to believe that the pleura is adherent over the site of proposed incision, the indications are certainly favorable.

Possibly it might be better to ask, when not to operate? First of all, there may be no need for immediate interference if the cavity is being freely emptied through a bronchial tube, and there is little fever. By having the patient attempt to aid the evacuation of pus by gravity, somewhat may be gained. He should rest for a few minutes with the face down and the head over the edge of the bed—just as we advise sometimes in the last stages of tuberculosis—and pressure, either manual or mechanical, made over the site of the cavity. However, relief from this, as well as from the usual act of expectoration, is very incomplete. The size of the abscess cavity, compared to the door of exit, the depth, the position, the impossibility of complete compression, are all obstacles in the way of spontaneous cure. Free drainage is better.

If the lesion is of pyemic origin, the probabilities are that there will be multiple abscesses or abscess cavities in other parts of the body. Even then it is better to attempt all the relief possible, and if the larger cavities can be reached, shall it not be done?

The condition of the pleura is a most important consideration. If there be adhesions, and the two pleuræ are as one, over the location of the abscess, the operation is greatly simplified. The history of the case and the recognition of friction sounds during the earlier stages, may indicate partial or even complete adhesion. Fenger and Hollister assert that it is quite possible to determine the existence of adhesions by making an incision through the intercostal muscles and then passing a needle through the pleural walls. If the needle move synchronously with the respirations there are adhesions; if not, the pleuræ are not adherent and the operation may be abondoned.

The above is an ingenious suggestion, but I cannot endorse the conclusion. Under no conditions connected with the pleura should an operation of this kind be abandoned, and I doubt if these distinguished authors would now advise it. The fact of a non-adherent pleura may change the character of the operation, but the desired result should be obtained in the evacuation of the pus.

Abdominal surgeons will remember that not so many years ago the peritoneum was a *noli me tangere*, whose domain few dared invade. To some degree the same hypothesis has had weight in reference to the pleural cavities. I believe that there is little danger of a septic pleuro-pneumonitis if care be taken. Can-

not the pleural cavity be protected, and, if need be, as thoroughly washed out as the abdominal?

When the necessity for surgical treatment is apparent, there may still be a question as to the nature of the operation. In all cases, where the delay of a few days can safely be made and no adhesions exist, it is well to consider the advantage to be gained by stitching the two serous surfaces together around the proposed site of incision and completing the operation later. But if need be, the pulmonary pleura can be stitched into the wound and immediate incision be made. Murphy reports a fatal case, where, owing to the absence of adhesions, the lung collapsed as soon as the opening was made. Some of the pus was expectorated, but as the patient was lying on the side of the healthy lung, some of it found its way into the healthy lung, and the patient died of infectious pneumonia. This is an additional argument for securing pleuritic adhesion before taking the last steps in the operation. I would add that the patient should be so placed on the table that the diseased lung can be below the level of the healthy one, to favor drainage. It may be more inconvenient to the surgeon to work upwards into the thorax, but the most of the operation can be done with the diseased lung uppermost and the patient brought to the edge of the table with the wound at the lower level, before the cavity is punctured.

The opening should be made as far back as possible to facilitate drainage, and if the cavity is believed to be large or deep, or both, a rib should be excised. It should also be remembered that it is hard to locate exactly a deep abscess of the lung, and that it will generally be found higher than suspected. After the pleural sac has been opened, a much smaller incision may be made into the pulmonary tissues. Within the lung, even at the base, are arteries and veins sufficient to cause considerable hemorrhage, which may be difficult to control. Sutton warns against plunging the knife into the lung, and Fenger suggests a small opening made by a trocar, gradually dilated by blunt instruments, till large enough to admit a good-sized rubber tube. Whatever be the method of the operator, the cavity should be repeatedly flushed with peroxide of hydrogen solution and kept at all times thoroughly clean. The battle is almost won when there is a free opening, free drainage and free use of the peroxide.

The drainage tube should not be too long, and as the cavity contracts it may be shortened. It can be kept in place by a safety-pin passed through its outer end and fastened to an adhesive strip. An absorbent compress and bandage will not only take up the pus which will continue to come away for some time, but will prevent the entrance and exit of air during respiration. I hope soon to be able to present a record of a series of cases of abscess of the lung, and to tabulate, as far as possible, the cases collated by others.

## A PLEA FOR EARLY OPERATIONS IN APPENDICITIS.*

BY A. M. HAYDEN, M.D.,

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THE question of when to operate in appendicitis is one of vital importance to the medical profession, and one that greatly concerns the laity. My opinion is that all cases of appendicitis should be operated upon as soon as diagnosed, with possibly a few exceptions. My reasons for this decision are based on the following facts: First, appendicitis is purely a surgical disease, and should be treated accordingly. Secondly, there is no known medicine that will either abort or modify the course of the disease. Thirdly, nearly all cases recover if operated upon before perforation of the appendix has taken place, and by operating on all at once you will prevent this complication in a large number. Fourthly, up to the present time we have discovered no symptoms that will enable us to determine the pathologic changes going on in the diseased appendix, and until we can do this it is better to operate on all cases. If you could determine by the symptoms which cases were going to terminate by resolution and recovery without a perforation and which ones would go on to gangrene, perforation and peritonitis, then I should only advise an immediate operation in the latter cases, and use the expectant plan of treatment in the former.

When we take into consideration the anatomy of the appendix and cecum, and when we recognize the fact that pyogenic micro-organisms are often associated with fecal matter in the appendix in all cases of appendicitis, it is preposterous for us to expect a very large per cent. of permanent recoveries without an operation. If you operate on all cases at once you will operate on some that would have recovered if they had not been subjected to the operation; but by so doing you will include a large number of cases in which perforations and peritonitis, and probably death, would have occurred if the operation had not been performed. Admitting that you do operate in some cases that would recover without the operation, there is no particular harm done, and there is an absolute assurance against a recurrence. On the other hand, if you wait for urgent symptoms to appear before operating the delay may, and often does, cost the patient his life; then, who is to blame?

Some surgeons urge us to wait until the acute symptoms subside, advising an operation during the interval of quiescence. If you pursue this plan, what will become of those cases of fulminating appendicitis that terminate in gangrene, perforation, peritonitis and death in from 24 to 28 hours? Do you gain

*Read before the Mississippi Valley Medical Association, Chicago, Oct. 5, 1899.

anything in those cases by delay? The question is then, how are you going to distinguish the more dangerous cases from those of a milder form or those that will terminate more favorably? With our present knowledge of the nature of the disease, it is absolutely impossible for us to answer.

This fact has been thoroughly demonstrated to me time and again in cases coming under my observation. To illustrate this, I will report a few cases I have had in my practice.

Robert R., aged 40, consulted me April 20, 1898. He had complained of occasional pains in region of McBurney's point for two or three months, and at times considerable soreness in right side, although he was not aware of ever having had any fever. Appetite had always been good, but after I called his attention to it, he said he had noticed that he was occasionally bloated after eating. He informed me that he had consulted one of our prominent physicians, who had diagnosticated appendicitis, but had told him that an operation was not necessary and that he would recover without it. His slow progress towards a recovery caused him to consult me. I examined him carefully and found only a slight tenderness over McBurney's point; no rigidity of muscles that was perceptible; he had no fever and his general condition was fair. I was satisfied that he had trouble with his appendix, and advised an operation as the quickest and safest means of relief, but told him he might get well without it. He went to the hospital and the operation was performed the 22d of April. Recovery took place and he went home in 14 days. The appendix was five inches long, the lumen was occluded or constricted at the cecal extremity. It was highly inflamed and contained two or three drams of pus, with absolutely no way of escape except by a perforation. With the symptoms presented in this case no one could or would have suspected so serious a condition of the appendix.

Case 2. Miss E., age 14, consulted me June 19, 1898. History of the case: 6 months prior had an attack of cramp colic that lasted 4 or 5 hours, succeeding which she felt as well as usual for about 3 months, when she had another attack of colic that troubled her for perhaps a half a day, after which she remained well until two or three days before consulting me, when she again had trouble with her bowels. At the time I saw her there was rigidity of muscles and tenderness over region of appendix, but not so much as I have seen in some milder cases; her bowels were loose, no fever, pulse 80, appetite good; she had been on a restricted diet for a day or two. I confirmed the diagnosis of appendicitis, which had previously been made, and advised an operation, to which she and her parents consented; they desired me to postpone it until after the 4th of July. I advised against a postponement, not that I thought there would be any danger, but because I believe in doing a thing at once after I make up my mind that it should be done. She went to the hospital and was operated upon June 21, 1898; recovered, and went home July 1. The appendix was highly congested, of a dark-red color, much enlarged, and contained nearly half an ounce of pus. There was atresia of its lumen near the cecum; at one point the wall between pus and peritoneal cavity was as thin as tissue paper. I am satisfied that perforation would have taken place in a very few more days, with all its consequences.

Case 3. Age 28; occupation, a moulder; consulted me September 28, 1898. Said that he had been having pain in right side more or less for six months, but had continued his work. Sometimes he would have to lay off two or three days on account of pain, but after keeping quiet for that length of time resumed his work. At the time of examination there was only slight tenderness over McBurney's point, with no rigidity of the muscles of the abdomen, no fever; appetite fair and bowels regular. I diagnosticated appendicitis and advised an operation. He went to the hospital, and was operated upon October 1st, and recovered in usual length of time. Appendix six inches long and three times its normal diameter, red and highly congested; all the veins over the cecum as well as those supplying the appendix were greatly enlarged; the appendix contained pus and soft fecal matter clear down to its tip end, and its whole inner surface was ulcerated and suppurating.

I could report a number more of similar cases, but these will suffice. They and similar cases demonstrate to me the utter impossibility of determining the exact conditions of the appendix in all cases by the symptoms. The gravest conditions may be impending with no equally grave symptoms present to indicate them.

It is not always that a surgeon is called before perforation has taken place, after which it requires careful consideration before deciding what to do. If the perforation is recent, or if the disease is progressing as indicated by the symptoms, operate at once. If on the other hand it has been twenty-four or forty-eight hours after perforation has taken place and the condition of the patient would lead us to believe that peritonitis is not progressing, which is indicated by a stationary temperature, pulse remaining tolerably good, with no rapid distention of abdomen, I should reason that the perforation, or leak, that caused peritonitis had been arrested by nature, and that it would be best not to disturb what she had done. By so doing you take chances of reinfecting the peritoneal cavity during the operation. Under those conditions I would not advise an immediate operation, but would trust to nature. Again, if I was not called

until the patient's vitality was so exhausted that he would probably succumb to the shock of the operation, I would not operate.

In conclusion: operate in all cases seen before perforation, even though they are ever so mild; operate in all cases that are seen after perforation, unless symptoms are present to lead one to believe that nature has closed the leak, or the patient is in such a state of collapse that he would be likely to succumb to the shock of the operation.

## Correspondence

St. Louis, Mo., October 9, 1899.

Editor Weekly Medical Review:

*Dear Doctor:*—In No. 43 of the *Berliner Klinische Wochenschrift*, of this year, an article was published by Schröder and Mennes, in which I am accused of plagiarism. In this article they claim that a booklet of theirs, which appeared during the latter part of the year 1898, had been used by me for the construction of my paper entitled "Experimental Researches About Mixed Infection in Chronic Pulmonary Tuberculosis," which was read before the St. Louis Medical Society November 12, 1898, and which appeared in the Weekly Medical Review of December 17, 1898. I am accused of having done this without mentioning their names, of having appropriated their method, and even in part their expressions. My answer to these imputations has been sent to the *Berliner Klinische Wochenschrift* yesterday; but since it will take five to six weeks before it can become accessible here in St. Louis, I deem it my duty to lay by means of your paper the facts in the matter before your readers and before the American medical profession.

I received the stimulus for my paper in the year 1897, while I was making immunization experiments on rabbits with streptococcus cultures. My endeavor was to obtain by means of cultures of low virulence a preliminary immunity as a basis for immunization with highly virulent streptococci. My efforts were without result, as all of the animals who had received large doses of these cultures succumbed to the smallest doses of highly virulent streptococci without any retardation in the course of the infection. The streptococci were taken from various sources; among the latter, of course, too, was tuberculous sputum. As they proved, almost without any exception, to be absolutely ineffective and harmless, I began to consider their influence on the course of chronic tuberculosis as doubtful, and set to work to explore this question by an extended series of experiments. This was done during the latter part of 1897 and during the first four months of 1898. That these dates are correct can be testified to by a number of colleagues with whom I discussed the subject, and among whom I may especially mention Dr. H. N. Lyon, Dr. John Zahorsky, Dr. E. W. Saunders and others. In fact, my work was almost complete when in May, 1898, I left for Europe. Among other things I did there was the search for literature; and after my return in the first part of September, and after a few concluding experiments, I made up my mind I had gone as far as our present means of investigation allowed me to go. In November, 1898, I read my paper. This is the history of my work.

I do not exactly know at what time in 1898 the book of Schröder and Mennes left the press. Their preface is dated August, 1898. My attention was first called to its existence by a review in the *Berliner Klinische Wochenschrift* of February 27, 1899, written by Dr. R. Stueve of Osnabrueck. Struck by and overjoyed at the similarity of the results, I sent a copy of my paper to the reviewer, the one that he in his turn sent to the authors accusing me. The only other mention of Schröder and Mennes' work that was made in the literature at about the same time was a remark of Petruschky at some society meeting, which at this moment I cannot locate. Of course, I have since procured the original and have been surprised at the identity of most of the essential points in our researches.

The reason for this conformity is, in my opinion, not hard to find. The starting point given, namely, the suspicion that streptococci after all do not play such an important part in the course of pulmonary tuberculosis, there was, to the extent of our present knowledge, only one way possible, and only one, to determine whether this suspicion was justifiable or not, and that was the way that we both followed. Bacteriologically, no other procedure could be conceived, even to the possible futile precautions that we took to exclude accidental contamination. The modification of Kitasato's method (I have become doubtful, by the way, of late, whether it means an improvement on this method) was prescribed by the consideration that the larger sputum particles lodge for a while in the bronchial ramifications and take up portions of their bacterial flora, which we wished to exclude. The arrangement of the experiments was bound to become identical, and the conclusions that had to be drawn from them so plainly could have only one meaning, that it is hard to conceive how they could be expressed in another form. *Mutatis mutandis*, P. Hilbert, in his laborious work on the streptococci of healthy tonsils (*Zeitschrift für Hygiene u. Infections Krankheiten*, XXXI., 1) has used the same words as we have.

While I willingly cede the claim of priority to Schröder and Mennes, I solemnly protest against the imputations expressed in their above mentioned article.

Yours very sincerely,

C. Fisch.

# Notes and Items

**It is stated** that one person in eight hundred is blind to the X-rays. When looking through the fluoroscope they are unable to see the shadows made by substances which resist the passage of the rays.

**In our last** reference to the plague, we stated that it had appeared at Oporto. The latest account states that it has shown itself at Quero, a village near Toledo, it being stated that no less than 230 persons have been attacked.

**The following** is the programme of the St. Louis Medical Society of Missouri, Saturday evening, November 11th, 1899: "Cases in Practice: 1. Adenocystoma Hepatis; Operation; Recovery. 2. Polycystic Degeneration of Both Kidneys," by Dr. J. B. Ross.

**Thirty-two hundred cases** of typhoid fever in Paris in eight months constitute an epidemic, according to *La Presse Medicale*. This is confirmed by the physicians, but the engineers and health officers affirm that all is well in the best governed city in the world.

**The sideroscope** is an instrument used by Professor Fuchs in locating fragments of steel or iron which have penetrated the eye-ball. The instrument consists of a magnetic needle furnished with a mirror. Deflections of this needle are registered upon a screen by means of a reflected light. Every effort is used to prevent vibration, and all steel objects are taken from the room in which the apparatus is used.

**The late discussion** of the propriety of dividing the fees between the consultant and the referring practitioner, has contained no mention of a recent plan adopted by undergraduates in our colleges—it is to be hoped not medical students—in raising the financial wind. The physicians who lend themselves to this nefarious practice are said to be broken-down practitioners, who are known as "ten per cent. doctors." The mechanism is as follows: The impecunious student reports an illness, graded to the extent to which the purse-strings must be wrung. This is followed by recovery, and later by a bill for medical attendance is sent by the physician, who upon receiving his remittance gives 90 per cent. to the impecunious student and retains 10 per cent. himself, as a commission upon the transaction.

**An active propaganda** in Colorado has been inaugurated looking to the protection of the State against the horde of indigent consumptives sent there from other parts of the United States. It is claimed that many of them reach Denver and other portions of the State with their disease so far advanced that the change of climate can do them no good, and in a condition too feeble to permit of their doing anything for themselves. Consequently they soon become a burden upon charitable institutions of the State, or else must be returned to their homes at the expense of the community.

**E. W. Holmes,** in a recent article on the present method of teaching anatomy in medical schools, says that the persons who teach this subject are naturally divided into two classes: scientific investigators and those engaged in teaching. Some of the glaring defects in anatomic instruction he finds in the fact that it is subordinated to the lecture method, which reverses the logical situation. The anatomic room is too often repulsive and inaccessible, and is not managed with the precision found in other departments. The teaching facilities are rarely what they should be. Every anatomic department should have an extensive museum ready of access, under the proper regulations, where the student would be allowed to handle the specimens himself. Practical teaching should replace that dealing with theoretical data.

**A case** of delayed vaccination is reported by E. T. Duke, of Cumberland, Maryland (*Maryland Medical Journal*, Oct., 1899). In February, 1899, he vaccinated a man who returned to him two weeks later with the statement that the vaccination had failed to take. As he had been vaccinated in childhood, the evidence of which was present in the form of a small scar, he was not revaccinated. In the month of August following he was at Atlantic City, and was daily on the beach in bathing costume. Within a few days thereafter a vesicle formed at the point of vaccination and the arm became inflamed and swollen. After the vesicle had healed there was left a well-marked cicatrix. The reporter has looked up the question of latent vaccination virus, and while delay has been noted, none have been found in which the period was so long as in this case.

**J. W. Bell** refers, in the *Jour. A. M. A.*, Nov. 4, 1899, to some of the more pronounced changes due to age to show that senile pathology, with its associated clinical manifestations, calls for special consideration at the hands of the medical teacher. He believes that the time is long past due when there should be an honest effort made to furnish systematic instruction, both didactic and practical, in the normal changes the result of advanced age, and in the diseases peculiar to old age. It is suggested: (1) that the chair of anatomy and physiology impart to the student the necessary primary instruction relative to the changes peculiar to old age; (2) that the chair of practice, or, in order to contrast diseases, the chair of pediatrics, enlarge its scope and furnish the necessary pathologic and clinical instruction as essential to fully equip the student for the responsible duty of intelligently advising and treating the aged.

# MEDICAL REVIEW

A WEEKLY JOURNAL OF MEDICINE AND SURGERY

EDITED AND CONDUCTED BY

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AND

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## THE ORIGIN OF THE BACTERICIDAL BODIES.

Any effort to introduce into biologic science the results and methods of physical chemistry seems the more necessary and desirable, since there can be no gainsaying that the theories based on mere atomic chemistry are far from being sufficient to explain the finer phenomena of life. We do not claim that physical chemistry will eventually supply this want, but it will certainly have the effect of keeping biology for a while from swaying too much to the verge of phantastic speculation and empty theorization. It is with the greatest satisfaction that we observe the classic works of Arrhenius, Ostwald and others gaining a strong foothold in the biologic domain, testimony for which assertion is the increased knowledge we have attained through Kroenig, on the theory of disinfection; through Koranyi, on kidney insufficiency; through Koeppe, on the composition of milk, etc. The latest addition to the achievements brought about through this channel is the important work of Walz and Baumgarten on the influence of osmotic differences on the life of bacteria. To a bacteriologist, to whom pathogenic microbes have not only become causative factors in the production of disease, but who at the same time never forgets that in them he deals with living beings, with finely adapted functions and very delicate vital reactions, it must have been long a source of wonder that such fundamental researches as those published during the last decade by Alfred Fisher have not been utilized with profit. He was the first to demonstrate that bacteria in their physicochemical relations behave just like other animal or vegetable cells; he was the discoverer of bacterial plasmolysis, and he was the first to sound a warning against the indiscriminate conclusions drawn from the routine culture-methods now used in bacteriologic laboratories. In a very able way, Baumgarten had his disciple Walz concatenate his investigations with the works of Fischer, and the result undoubtedly is and forever will be that the biologic reliability of the plate-method is shattered, at least so far as it is now used. By careful researches they showed that the transportation of bacteria from one culture medium to another, not isotonic with the first, not only brought about plasmolysis, or contraction of the protoplasmic body of the bacterium, but that during the various steps of this procedure often a restoration to the normal condition was directly inhibited; in other words, the results of such rough and forcible experiments can in no way be adduced as evidence for normal processes. Omitting to enter into any details here, we can only refer to the great importance that these findings must have on all of those investigations, in which the bactericidal action of animal fluids was to be demonstrated by means of this method.

Although we do not go so far as Baumgarten, who from the beginning of the bactericidal era, has unceasingly contested the existence of bactericidal bodies in the normal organism, we must admit that every evidence based on this method has become exceedingly doubtful. There is certainly such antibacterial action going on in the not immunized normal organism, as can for instance be shown by experiments analagous to that fundamental one, called "Pfeiffer's phenomenon." We can show, that in normal serum, for instance, bacteria are directly disintegrated and completely dissolved or digested, if you please. Above all, however, in those plate-method experiments the factor has been entirely overlooked that the antibacterial action is not a simple process, but that the presence of two substances is necessary: the one, which attaches itself to the bacterium, catches it, as it were; and another, one of enzymotic nature, which, uniting with the first, transfers its enzymotic activity to the bacterium and digests it. These things have been established beyond a doubt by the researches of Ehrlich and Morgenroth. It is hard to see how this combination would come into play in a plate-culture, if we remember that the substances mentioned are very unstable.

Of late it has become almost a dogma that these really existing bactericidal bodies are the products of the leucocytes; Buchner and his school claim, as is well known, that they form substances of these cells (proteolytic enzymes), while the French school asserts that they are formed within the cells and are set free only after the death of the latter. Feasible as this leucocytic origin may seem (feasible because conforming with some very familiar conceptions of ours—leucocytosis, etc.), it has *a priori* this very strong

objection to it, that in the artificial immunities we are able to bring about in various ways, the leucocytes are absolutely inert; that in these immunizations the specific bactericidal or antitoxic bodies are never found in the leucocytes nor in any connection with them, but that demonstrably they are formed in the fixed tissue-cells of certain organs. It is hardly logical to assume that in two phenomena so nearly related as are natural and acquired immunity, so radical a difference as to their causation should exist.

And indeed the latest efforts made to clear up this point seem to deal a death-blow to the leucocytic theory. MOXTER, under RICHARD PFEIFFER'S direction, publishes a long series of experiments dealing with the comparative bactericidal power of fluids containing leucocytes, and with serum, both always taken from the same animal. While by means of the plate method by the Munich and the Belgian schools a higher bactericidal value of exudates containing leucocytes, has apparently been demonstrated, MOXTER arrives at the opposite result.

Knowing the fallacies of this method he abandoned it and turned to the direct microscopic observation of the dissolution of the bacteria in the fluids mentioned. He found that the exudate freed from leucocytes about equalled the serum in its bactericidal energy, while the leucocytes themselves, freed from serum and extracted in several ways, showed in no instance any remarkable activity in this regard, and mostly proved to be absolutely unable to kill any bacteria whatsoever. He is forced to the conclusion that these cells take no part in the formation of the antibacterial bodies, and that the latter must be generated somewhere by the fixed body cells.

It is unnecessary to say that a flood of contesting publications will follow this announcement, as has been the case for many years, with alternating emanations from the phagocytocists and antiphagocytocists; but it is clear that the greater physiologic weight, and therefore scientific and logical, must be attached to those facts speaking against the leucocytic origin of bactericides. A uniformity of opinion will be the more easily reached the sooner we are willing to give up preconceived notions.

## AN EXTENSION OF POLICLINIC TEACHING.

The Pennsylvania Medical Society, through its journal, is doing a great work in organizing the profession. The means by which this is brought about is through the special organ of the Society, which is devoted directly to the building up of the local medical societies. The journal publishes not only the papers which are read at the annual meeting, but also editorials and other matters of interest which are properly found within the pages of a medical journal. An official reporter is appointed for each society, whose name and the county in which he lives, as well as his postoffice address, is at the head of the editorial page. These reporters pledge themselves to keep track of what is going on in the local societies, in this way keeping each in touch with the others. This plan has furnished a powerful stimulus to the organization of county societies, a number having been created where formerly organized medicine was not represented, and a few of the weaker societies have been greatly strengthened. A further extension of this work is found in the report of the committee on increase of membership and extension of policlinic teaching. A long list of physicians have signified their willingness to visit county societies and read papers or deliver policlinic or didactic lectures, the county society paying the traveling expenses. Each has promised one or more appointments on the condition that all engagements are to be made through the chairman of the committee. Naturally, in the number of men Philadelphia is easily first, but many of the smaller cities and not a few of the towns in Pennsylvania are represented in this list.

## EXPERT TESTIMONY BEFORE IGNORANT JURIES.

The shortcomings of expert testimony have furnished texts for adverse criticism and not a little ridicule on the part of the bar. A recent examination of talesmen, in which two days were consumed in securing a jury in Chicago, called forth, among other ludicrous incidents, the following: One talesman was a foreigner who spoke and comprehended English with difficulty. After a ten-minutes' skirmish over the form of a question, the following was finally agreed upon: "If you believe from the preponderance of evidence that at the time of the alleged commission of the alleged offense a reasonable doubt existed as to the sanity of the defendant in the case, such reasonable doubt having been established by the testimony of competent witnesses, whether of the medical profession or otherwise, what would your verdict be?"

To this the juror made no answer and the court questioned him, whereupon he explained that he supposed the lawyers were still talking to one another. The judge then ordered the court reporter to read the question, and the long interrogation was again propounded. The juror gazed at the court calmly, and then responded: "Which?" The many-jointed question had to be read over again, when the juror answered: "I give him free."

The above is a fair sample of the dialectics engaged in by our courts, not only in examining jurors, but in questioning witnesses. The practice of the law in many cases has become so overweighted with precedent, fine-spun distinctions and useless verbiage, that the simple administration of justice is almost hidden from view.

# Current Medical Literature

## DERMATOLOGY AND GENITO-URINARY DISEASES.

**Report of a Case of Hypernephroma of the Kidney.**—L. L. McARTHUR* and D. N. EISENDRATH report a case of this character with description of the clinical symptoms, operation and pathology of this class of tumor. The striking factors in this case are: 1. The long history of dull pain (six years). 2. The occasional appearance of blood in the urine. 3. The mild cachexia of so extensive a growth. 4. The apparent line of least resistance to its growth in the cicatrix of the first incision. 5. The total and perfect compensation of the opposite kidney. 6. The causing of hemorrhage at a time when, with the kidney exposed and explored, no tumor was yet recognizable. 7. The enormous increase in urine after transfusion from 300 c.c. to 2500 c.c., with cessation of vomiting. 8. The disappearance of casts and albumin from the left kidney secretion after removal of the right. The patient left the hospital the thirty-first day after the operation, with a small rubber drain in situ, to return later for an attempt at removal of the metastasis in cicatrix. The patient died five months later, but autopsy was not obtained.

**Can Gonococci Be Found on the Mucous Membrane of the Genitalia of Women Without the Clinical Symptoms of Gonorrhea Being Present?**—H. SCHILLER.† This investigation by Schiller was undertaken to prove or to disprove the statement of Neisser to the effect that clinical symptoms could be absolutely wanting in spite of the presence of gonococci in the female genitalia. It is only by means of the examination for the gonococci that the importance of a case as an eventual source of infection can be determined. The urethra and its neighborhood and the cervix of 300 women were examined for gonococci without inquiring into the clinical symptoms at all, and without any knowledge of the cases. The results were in direct contradiction of Neisser. Wherever gonococci were found a pathologic secretion of the mucous membrane was also found. In the 300 cases 57 showed gonococci; of these 37 showed symptoms of acute, 20 of chronic gonorrhea.

**Urethroscopic Diagnosis, with Special Reference to Chronic Gonorrhea.**—F. C. VALENTINE‡ describes a urethroscope devised by himself, which is simple in construction, easy to use, not prone to get out of order and always reliable. The technic of both anterior and posterior urethroscopy is fully described. If scruples prevent a practitioner from studying the healthy urethra, the urethroscope may be used in neurasthenics with normal genitalia, to whom urethroscopy is a decided benefit. The study of urethroscopy on the cadaver is absolutely useless. The natural color and consistency of the mucosa are gone and offer no means of comparison. The normal urethra, as seen in the different parts, is described, as well as the urethroscopic appearance in disease. In obedience to ordinary surgical principles, no instrument should be inserted into an acutely inflamed urethra except when a foreign body must be removed, or when catheterization is necessary to relieve retention of urine. His ideas on the subject are summarized: 1. No chronic disease of the urethra can be diagnosed or intelligently treated without the urethroscope. 2. The technic of urethroscopy is not difficult. 3. A urethroscope must be easily manageable, of a prime cost, and of a price of maintenance within the means of the average general practitioner.

**The Wearing of Veils as a Cause of Redness of the Nose.**—O. ROSENBACH* noticed that a great majority of the women who wear veils in winter had circumscribed areas of redness, generally at the point of the nose and cheeks. It was further noted that in women who wore no veils this redness was uncommon. The areas of redness corresponded to the points on the face where the pressure from a veil would be most pronounced. These cases were benefitted or cured when the veils were laid aside.

**Preliminary Note in the Treatment of Leprosy by Injection of Calmette's Antivenene.**—S. R. WOODSON† reports the results obtained from the use of these injections for two months. The patient first noticed the disease seven years ago, and leprosy was diagnosed clinically and microscopically by various observers. Treatment was begun with the injection of 2 c.c. daily and gradually increasing to 40 c.c. The reaction after each injection was marked. During the first few weeks the case assumed an acute form, as manifested by fever, the efflorescence of numerous crops of tubercles disappearing in a few days, and a general neuritis of all extremities. The patient was kept on large doses of hoangnan at the same time. Her manner of living, from a hygienic standpoint, has been perfect. Improvement was manifested by these facts: 1. At present there are no ulcerations on any portion of her body. 2. There are no tubercles on her body. 3. Her nasal secretion is greatly diminished. 4. The anesthesia of her extremities is diminishing to a marked extent. 5. The change in her general appearance is noticeable. Further treatment and time are necessary to effect a complete cure and to furnish proof of its permanence.

*Phila. Med. Jour., Nov. 4, 1899.
†Berl. klin. Woch., Oct. 8, 1899.
‡Jour. A. M. A., Nov. 4, 1899.

*Berl. klin. Woch , Oct. 8, 1899.
†Phila. Med. Jour., Oct. 28, 1899.

## EYE, EAR, NOSE AND THROAT.

**Enzymes in the Treatment of Nasal Diseases.**—T. R. CHAMBERS.* The function of the gastric juice is to break down organic dead matter. It will fulfill its mission outside of as well as in the stomach. Besides it fails to attack healthy parts. It acts thus on the eye, ear, nose and throat mucous surfaces without detriment to the normal parts, digesting and dissolving sloughs, granulations and detritus. In acute and chronic suppurative otitis media, and in two cases of persistent suppuration after mastoid operations, it abruptly stopped discharge with but two or three days treatment. After removal of polypus of the auditory canal, and in morbid conditions of the mucosa of the nasal chambers where extensive exfoliations of bone had occurred, it supplanted the peroxid treatment, at the desire of the patient, whose daily attention to the diseased parts became much lessened and more satisfactory. In a case of sloughing ulcer of the cornea it acted very happily. The patient is given a small bottle of the preparation, diluted with equal parts of water, and is directed to instil five drops, after thoroughly syringing with pure warm water and drying out as well as possible. The preparation used is a pure solution of proteolytic enzyme, prepared by direct extraction from the peptic glands of the fresh pig stomach, slighty acidulated, and when diluted with equal parts of water has about the percentage of hydrochloric acid characteristic of gastric juice. It is a stable compound under ordinary conditions, and is to be diluted with an equal quantity of water. Among all the agencies as a means of cure in the conditions mentioned, this is not merely theoretic, but by far the most scientific, practical and efficient.

**Lip-Reading; an Aid for the Incurable Deaf.**—MRS. C. D. GORTON.† Lip or speech reading at the present day is no longer a theory, but is grounded upon established principles. It is readily acquired by educating the eye, the sense of sight becoming unusually acute and taking the place of the aural sense. There is more to be seen by the reader than the mere moving of the lips, the position of the tongue, and the size and shape of the aperture of the mouth. The brow expression, whether it be contracted, elevated, or passive, the expression of the eye, and the unconscious movements of the head; the affirmative and negative nods, are observed, and are of great importance to a ready understanding of what is said. The speech-reader grows unconsciously to note every mark of facial expression, and through experience the reading becomes no tax on his memory. The art is of material benefit to partially deaf people as well, in that the eye may catch the words the patient fails to hear, and the combination of both senses renders conversation intelligible, even at a distance. While the methods are acquired in comparatively few lessons, much after-practice is necessary to insure proficiency. The pupil first learns to read his teacher's lips, then those of his family, and lastly those of strangers.

*Jour. A. M. A., Nov. 4, 1899.
†N. Y. Med. Rec., Nov. 4, 1899.

**The Complications of Acute Otitis Media Purulenta.**—E. S. ALLEN.* Acute cases may end in one of four ways: 1. Suppuration gradually ceases and recovery occurs. 2. In neglected cases a chronic otorrhea is established. 3. At other times after a varying period, generally while suppuration is still profuse, the mastoid cells become involved in a pronounced way. 4. On other occasions there is no decisive mastoid or other symptoms, but at a time varying from a few days to several months from the onset of the ear symptoms, meningitis, pyemia, and symptoms of thrombosis or abscess set in. This fourth variety of acute inflammatory ear trouble is discussed. It would appear that the grave complications are not the result of a transference of the infection by continuity of mucous membrane, but rather the result of a peculiar deep-seated germ activity. The complications are caused by a distinct method of infection where the organisms are deeper-seated and bring about carious destruction at points remote from the tympanic cavity. Early paracentesis does not tend to prevent dangerous complications, as in most of such cases perforation occurs early and suppuration is not profuse. Early operating on the mastoid does not always succeed in avoiding trouble; the deep-seated carious spot can be found only by rare good luck, and a free mastoid opening, without searching this carious spot, would probably be of slight benefit. Fortunately such cases of deep-seated infection and caries as the result are of rare occurrence, in the prevention of which we have to thank Nature rather than any of our preventative measures.

**Headaches Due to Eye Strain.**—J. C. HANCOCK.† The conditions bringing about a so-called "eye-headache" are an undue stimulation of the nerve centers of nerves supplying the intrinsic and extrinsic muscles of the eye, causing a reflex vasomotor action referred to the meninges and producing congestion. The confusion of images may be an important contributing cause, but the muscular reflex is the chief factor. Excessive and continued contraction of any muscle supplied by cranial nerves may cause headache. A thorough examination of the eyes should be insisted upon in all cases, and this can be thorough only when the ciliary muscle is completely paralyzed. In hypermetropia glasses should be worn for reading and close work only; in myopia for distance, when present in marked degree, and for reading when the

*Jour. A. M. A., Nov. 4, 1899.
†N. Y. Med. Rec., Nov. 4, 1899.

book is held nearer the face than thirteen inches. For muscular insufficiency prisms are worn and the weak muscles exercised. Operations are often necessary. In astigmatism glasses should be worn constantly, for here complete correction is quite impossible.

## GYNECOLOGY AND OBSTETRICS.

**A Modern Treatment of Uterine Cancer.**—Madden,* after employing all the methods of treatment of cancer of the uterus, puts reliance in only one form, those cases in which the disease manifests itself primarily in the cicatrical tissues resulting from parturient lacerations of the cervix uteri. In these, by its timely removal and free cauterization, good results are often obtained. This may be explained by the fact that they remain localized for a time sufficiently long to enable their timely detection. The above operation recommends itself: first, because the mortality is almost nil; and secondly, since in two-thirds of the cases the patients remain free from any recurrence of the cancerous disease. In the other cases of cancer of the uterus the lymphatics became involved early.

**The Fourth Hitherto Undescribed Disease of the Ovary; Colloid Degeneration.**—M. A. D. Jones.† Colloid degeneration is one of the most remarkable and probably one of the most frequent forms of degeneration of the ovary. It seems especially destructive to the ova. Microscopic study has shown how the various tissues and separate parts were gradually and surely being destroyed by this degeneration, and how the whole ovary was being infiltrated with colloid corpuscles; some portions were entirely changed to this material, or completely undergoing this degeneration. The walls of several cysts were found in acute inflammation, and in them many colloid bodies. Near one cyst was an endothelioma, and in the endothelioma were countless numbers of colloid corpuscles. In the same way there may exist at the same time many different forms of degeneration. Colloid degeneration differs very greatly in different ovaries, both as to extent and degree of degeneration, as to the size of the masses of colloid material. It seems to destroy not only normal tissues, but it has the power of displacing and destroying other growths and other forms of degeneration. It has been found in the ovaries of young women of 18 and 20 years of age, and equally in women who were 48 to 53 years old. It is not an understood disease. Like other pathologic subjects of the ovary, it should be studied in connection with the clinical history of the patient. Numerous cases are cited in which colloid degeneration of the ovary was the cause of long-continued suffering, which was at once relieved upon removal of the ovary. The diseased organs should be totally removed in every case, for the disease makes more serious conditions and more profound constitutional disturbances than does the absence of these organs. Numerous drawings are given, showing sections from ovaries in various stages of degeneration.

**Floating Kidney Simulating Diseases of the Genital Organs in Women.** — A. L. Smith.* Floating kidney is one of the diseases which gives rise to as many symptoms, which we have been accustomed to attribute solely to the genital organs, so that its presence has often not been recognized. There are three points in the causation of this condition: 1. Anything which causes a sudden and marked loss of fat in the perirenal cellular tissue. 2. Frequent pregnancies. 3. Making great efforts in lifting or sudden falls, dislocating the kidney. The symptoms in the order of frequency and importance are: *a*. Those referable to the digestive tract. *b*. General nervousness, the woman becoming cross and irritable. *c*. Palpitation of the heart, with pain over the cardiac end of the stomach. Then there are the symptoms directly due to displacement of the kidney, such as pain in the back, partly caused by the dragging and partly due to intermittent hydronephosis from kidney, and consequent blocking of the ureter. The only two conditions with which movable kidney could be confounded are a distended gall-bladder and cancer of the pylorus. Weir-Mitchell treatment of rest and forced feeding has been followed by great benefit in some cases; some are relieved by supporting the kidney by some form of pad or bandage. The only good accomplished in this way is by crowding up the whole abdominal contents. Nephrorrhaphy, or stitching the kidney to the back, as a rule gives satisfactory results in cases in which the first two methods fail to afford relief.

**Spontaneous Escape Through the Umbilicus of a Catheter Introduced Into the Uterus.**—Eckman† reports this most unique case: Patient, on February 13th, having missed her period twenty days, consulted a physician, who to help her out of her supposed trouble introduced a catheter into the cavity of the uterus, and told her to return the following day. This she failed to do until three days later, when he was unable to find the catheter. She suffered after this from diarrhea, pain and irritable bladder, with vomiting and great prostration, which the physician in charge diagnosed as typhoid fever. When the writer was called in he found the case in a very serious condition. Examination revealed a mass, more tender than the rest of the abdomen, situated a little below and to the right of the umbilicus, apparently continuous with the uterus. Surgical interference was not permitted. Patient improved

*Therapeutic Gazette, Oct. 15, 1899.
†N. Y. Med. Rec., Nov. 4, 1899.

*Jour. A. M. A., Nov. 4, 1899.
†Therapeutic Gazette, Oct. 15, 1899.

greatly under symptomatic and tonic treatment. One month later patient complained of a tender navel, which in a few days ruptured, discharging a few drops of offensive pus. Attempts to probe were futile, the probe only entering about one-quarter of an inch from the surface, where it was resisted by a hard mass. A few days later he extracted a full length No. 9 linen catheter, with the enamel dissolved. The catheter probably became curled up in the fundus of the uterus, distending it so that it reached to the umbilicus; being surrounded by an inflammatory barrier, it was protected from the peritoneal cavity.

**The Interaction Between the Ovaries and the Mammary Gland.**—STANLEY BOYD* was influenced to write upon this subject because of cases which he had watched in which he was convinced that the ovaries sometimes influence malignant growths, starting from mammary epithelium. His working hypothesis has been that the internal secretion of the ovary probably exercises an important influence upon all the cells of the body; that this internal secretion may vary in quality, pathologically, if not physiologically; that when varied in some unknown way the ovarian secretion favors the growth—possibly even the action of the cause—of cancer, influencing either the invading epithelium or the resisting mesoblastic tissue. The removal of the ovaries of which the secretion is faulty would then turn the scale in favor, by leaving the tissues unhampered. On the other hand, removal of ovaries secreting normally would have no influence upon the cancer present.

## INTERNAL MEDICINE.

**The Local, Non-Surgical Treatment of the Intestine in Typhoid Fever.**—D. ROCHESTER.† The local treatment of the digestive tract is desirable in tyhoid fever as an adjuvant of other methods of treatment. It is plainly possible to treat the mouth, the rectum and the colon locally without disturbance of the patient, but there is no evidence to prove the potency of any medicine given by mouth for the destruction of the pathogenic agent in the intestinal canal when given in doses which would not be toxic to the infected person. The mouth should be treated locally, cleansing it from four to eight times in the twenty-four hours. Spraying of the nose once or twice daily with Dobell's solution aids in keeping the mouth and pharynx in good condition. When there is nausea or vomiting, persistent lavage of the stomach is of great value. Milk is preferred as the only article of diet; it should be peptonized if necessary, and may be flavored with strained orange juice or diluted with lime water. Distilled water, aerated with sterilized air, should be given at regular intervals. If marked intestinal tympanites occurs, the administration of calomel is advocated; and calomel should be used in laxative doses every four or six days during the course of the fever; a moderate degree of diarrhea is better for the patient than even a moderate constipation. The colon should be washed once or twice daily with boiled water, plain or containing boric acid, borax or common salt. For the treatment of hemorrhage from the bowels, absolute rest, ice-water coil to abdomen, turpentine internally, and the subcutaneous injections of normal salt solution in collapse are indicated.

*Brit. Med, Jour., Sept. 30, 1899.
†Phila. Med. Jour., Nov. 4, 1899.

**Sputum Analysis and the Early Diagnosis of Pulmonary Tuberculosis.**—S. E. SOLLY* has analyzed the notes of the first examination of the last 100 cases of pulmonary tuberculosis presenting themselves for examination. The diagnosis of the disease was delayed in 45 per cent., and the average period of delay was nine and a half months. In 55 per cent. of the cases sputum examinations had been made, so that in the remaining 45 cases the diagnosis was delayed for about one year, and should have been made by the average practitioner. Signs which should lead to a careful investigation for the presence of tuberculosis as early as possible are: the fact that a patient appears to be declining in health without obvious cause; slight rise of temperature in the afternoon; loss of sight; spitting of blood, frequently passed over by the patient; sweating at night; shortness of breath. When cough and expectoration are denied by the patient, sputum can generally be collected, and should be carefully examined. Both patient and doctors are too pessimistic in regard to their views of the curability of tuberculosis. While change of climate is usually the surest and quickest road to recovery, in some cases it is not the best course to pursue. If the patient is radically treated as regards the hygiene of his home and person, even a slight change of air and for a short period is sufficient.

**The Number of Red Blood Corpuscles in Two Cases of Adrenal Disease.**—A. CHRISTOMANOS.† The diagnosis of adrenal disease is always very difficult. In Addison's disease a pathologic condition of the adrenals is always suspected. In 88 per cent. of cases this is true. If the typical symptoms of an Addison disease are absent, especially the melandermia, or if the same is not very well developed, if no tumor in this region can be felt, then a diagnosis of adrenal disease cannot be certain. It can be suspected when in a young adult the arteries are found thickened and tortuous and no evidences of a nephritis, a heart lesion, lues or diabetes are present, or when a condition of hypothermia does not exist. It is strange that the examination of the blood in cases of Addison's disease has not been given more attention—more so, be-

*Jour. A. M. A., Nov. 4, 1899.
†Berl. klin. Woch., Oct. 16, 1899.

cause the anemia is one of the most characteristic symptoms of the condition. In those cases where the blood has been examined the reports are not in agreement. The author has examined two cases of Addison's disease with this end in view. In both cases there was found an increase in the number of red corpuscles. The increase in the blood elements is an apparent one and does not depend upon a real increase of the corpuscular elements. This apparent increase of the red corpuscles may be of diagnostic value and may be regarded as a sign of permanent decrease in blood pressure.

**Report of a Case of Acute Cholecystitis Apparently Following Influenza.** — F. A. PACKARD.* The patient, a man 58 years old, was seized with sudden severe pains in the upper part of the abdomen, followed by vomiting and much retching. For three days prior to this he had been suffering from the epidemic of influenza prevailing at that time. The pain was intense, sharp, tearing, in the upper zone of the abdomen, chiefly on the right side. The slightest pressure over the upper right quadrant caused exquisite pain, especially as the region of the gall-bladder was approached. The gall-bladder could be readily felt as a round, elastic tumor. Patient had never been jaundiced. After four days the tumor could no longer be felt, but the edge of the right lobe of the liver could be distinctly palpated 1 cm. below the costal margin. That the symptoms and physical signs were produced by cholecystitis is proven by the mode of onset, the associated gastric symptoms, by the palpable tumor of the gall-bladder, by the diffuse tenderness in the region of the gall-bladder, by the pain produced by motion of the gall-bladder from pressure upon the liver by the hand in the right flank, or by deep inspiration, and by the gradual subsidence of tenderness, the region of the gall-bladder being the most enduring point of pain on pressure.

**Experiences with the Alexander Method of Treating Phthisis by Means of Injections of Oleum Camphoratum.**—CRIEGERN.† This is a report of two years' experiences with the method of camphor-oil injections. The first condition to be observed in the choice of patients suitable for this treatment is that creosote should be employed at the same time or immediately before. The two classes of tuberculous patients are considered separately. In those with complicated tuberculous lesions, where no ulcerative process had taken place, the administration of camphor had no influence on the progress of the disease at all. In the second class, those with ulcerative process, especially those with hemoptysis, the administration of the camphor seemed to favor the occurrence of the hemoptysis. In the other cases, in which cavity formation had advanced considerably, the use of camphor seemed to be useful. There appeared to be less prostration and a longer period of activity; although in some cases the use of camphor did not seem to be well borne. Further, in some cases, in extremis, the camphor had a very favorable effect. In the cases of intestinal tuberculosis the camphor had no effect at all. In cases which showed a considerable kidney complication, in the form of nephritis, camphor is contraindicated. The method of giving is the one recommended by Alexander: 1.0 gm. oleum camphoratum is injected for four days, then ten days rest. The injections are always painful, but there is very little danger of infection. It cannot be given by the mouth, as hemorrhage of the esophagus may result. Per rectum, with the yellow of an egg, is recommended in those cases in which the injection is too powerful. The conclusions from this study are the following: 1. Oleum camphoratum is in no sense to be regarded as a specific anti-tuberculous remedy. 2. As a general antiseptic agent in cases of mixed infection it has no importance; rather the contrary. 3. As a means of increasing the blood-pressure it has no value. 4. It has a definite psychical effect, as it increases the euphoria in cases of depression and hypochondriasis. 5. Camphor has no effect upon the dyspnea and cough or upon the pain. 6. It lessens the bronchial secretion. To sum up then, the indications of camphor are those of the balsams on the one hand and of the excitants on the other.

**Enteric Fever; Its Infection, Pathology and Present Treatment.**—F. STAPLES* gives a description of typhoid fever, dwelling particularly on the causes and means of infection, the nomenclature of the disease, its symptoms and course, pathology, aids in diagnosis, and the present management of cases. The article contains nothing new or of particular interest.

## SURGERY.

**Major and Minor Technique of Bassini's Operation, as Performed by Himself.**—E. W. ANDREWS† describes in detail the operation for radical cure of inguinal hernia as performed by Bassini, from personal observation at the latter's clinic. The success is the result of smooth and rapid work; so much seems to depend upon getting the parts united, with a minimum of handling and stretching, that an unvarying routine in the technique is essential. The time required by Bassini for an inguinal herniotomy is twenty or twenty-five minutes, for a double rupture thirty-five to forty-five minutes. The first, and practically the only dressing, is by moist sublimate gauze. The time for the first and only redressing is about the eighth day. When the skin suture, which is of silk, is removed on the eighth day, a light

*Phila. Med. Jour., Nov. 4, 1899.
†Berl. klin. Woch., Oct. 23, 1899.

*Jour. A. M. A., Nov. 4, 1899.
†N. Y. Med. Rec., Oct. 28, 1899.

gauze dressing is placed over the wound. The patient is at once allowed to leave his bed and go home, with advice to remove this dressing in a few days himself. No truss or support is ever used, and no limit to exercise is enjoined. Recurrences are very rare, less than five per cent. in all probability, after two or three years have elapsed.

**Congenital Hernia of the Umbilical Cord.**—W. B. COLEY.* This form of hernia develops before the falling of the cord and is due to defective development during fetal life. The size of the hernia varies from a small bulging at the base of the cord to complete eventration. In this form there is no true sac, the protruding viscera being coated with the myxomatous tissue of the cord, and covered by its amniotic layer. Prognosis is grave no matter what form of treatment is adopted. Two cases are reported, with photographs taken twenty hours after birth in one case and twenty-four hours in the other. In Case I. the tumor, the size of a large orange, was covered only by the dilated tissues of the cord. Operation was performed twenty-two hours after birth and the child made a good recovery. In Case II. the tumor was as large as the child's head and partly made up of fluid. The sac contained the liver and most of the large and small intestines, and it was impossible to reduce the contents in view of the very small size of the abdomen. The prognosis was regarded as absolutely bad, but three weeks later the child was still alive.

**Report on the Schleich Solution.**—R. M. STONE† describes a mask which has been devised for the administration of the Schleich solution, which overcomes many of the objections heretofore attributed to the solution itself. The frame consists of metal, the shape of one-half of an egg cut the long way, with a pneumatic tire to secure perfect contact with the face. Japanese bibulous paper, twelve thicknesses, proved to be the best lining for the mask. The opening for the entrance of air and the reception of the fluid is seven-eighths of an inch in diameter. The Overholt dropper allows the paper to be kept moist or soaked with the minimal amount of the solution. With this mask there was absence of cough, mucus, excitement, and cyanosis, with perfect anesthesia. The solution has been used in 250 cases, with increasing satisfaction. Corneal anesthesia has been obtained in from 1 minute to 4.2 minutes, and on the average the patient was ready for the knife in 8 minutes. The average quantity of the solution necessary was $3\frac{2}{5}$ ounces for each 90 minutes, or $2\frac{1}{4}$ ounces for each hour of anesthesia. It has been used in a great variety of cases, in none of which was there the least trouble. With careful examination of the urine, albumin has not been found in cases not having it prior to the anesthesia; in cases showing albumin prior its quantity has not been increased. Rigidity of the body in early anesthesia, sometimes persisting beyond surgical anesthesia, has been observed. This is attributed to the benzin. Particular attention is called to the function of respiration, which is practically normal throughout the whole period. The criticisms of Dr. Rodman are taken up one by one and discussed; they are all considered to be due to the use of a faulty mask and not to the anesthetic itself.

*N. Y. Med. Rec., Nov. 4, 1899.
†Jour. A. M. A., Nov. 4, 1899.

**Surgical Treatment of Perforation of the Bowel in Typhoid Fever.**—W. W. KEEN* summarizes his views as follows: 1, the surgeon should be called in consultation the moment that any abdominal symptoms indicative of possible perforation are observed; 2, if it be possible to determine the existence of the preperforative stage, exploratory operation should be done under cocain anesthesia before perforation, shock and sepsis have occurred; 3, after perforation has occurred operation should be done at the earliest possible moment, provided: 4, that we wait till the primary shock, if any be present, has subsided; 5, if in a case of suspected but doubtful perforation a small exploratory opening should be made under cocain to determine the existence of a perforation, and if hospital facilities for a blood-count and for immediate bacteriologic observation exist, then aid should be invoked; 6, the operation should be done quickly, but thoroughly, and in accordance with the technic which is described; 7, the profession at large must be aroused to the possibility of a cure in nearly, if not quite, one-third of the cases of perforation, provided speedy surgical aid is invoked.

**The Sphere of Drainage in Surgery of the Appendix.**—W. S. MCLAREN† divides cases of suppuration about the appendix into two classes: the first comprises those in which the abscess is localized, being shut off from the general cavity by adhesions; the second includes those more serious cases in which the pus has entered the general abdominal cavity. Cases of the first class are simple abscesses, and should be treated like abscesses of any other region. In these cases drainage is a perfectly proper, though sometimes unnecessary, procedure. In cases of the second class drainage is irrational, because it does not drain and because any foreign body must add to the already-existing irritation. Filling the abdomen with saline solution is considered to be rational, because it dilutes the poison which is generated during the few hours immediately following operation, and vastly increases the area of the peritoneum, which is called upon to resist that poison. Two cases are reported in which this method was used; there was an abundance of pus in the general cavity, which was washed out with peroxide of hydrogen; the abdomen was then filled with saline solution and the abdominal incision closed. Both patients made good recoveries.

*Phila. Med. Jour., Nov. 4, 1899.
†N. Y. Med. Rec., Oct. 28, 1899.

# Book Reviews

**Minor Surgery and Bandaging.** By HENRY R. WHARTON, M. D., Demonstrator of Surgery in the University of Pennsylvania. New (4th) edition. In one 12mo volume of 594 pages, with 502 engravings, many of them being photographic. Cloth, $3.00 net. (Lea Brothers & Co., Philadelphia and New York.)

The previous editions of this little, but comprehensive, work have met with deserved success. The present one shows a careful and complete revision, with the addition of much new and pertinent matter. Among these, and of special mention, are the chapters on Surgical Bacteriology and on Operative Procedures upon the Cadaver. The section on asepsis and antisepsis is excellent and thoroughly up-to-date, as is the section on anesthetics.

**Materia Medica, Therapeutics, Etc.** By WILLIAM SCHLEIF, Ph.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. (Lea Brothers & Co., Philadelphia and New York.)

This admirable work presents in 350 pages an amount of information which must be sought out in the larger works at the expense of much time and labor. Besides reviewing all the drugs commonly employed by the general practitioner, and many more of less universal application, it contains paragraphs on Prescription-Writing, Medical Latin, Medical Pharmacy, and Practical Anesthesia, together with Tables of Doses, Important Poisons and their Antidotes, Incompatibles, and Classification of Drugs. The book is of value to the general practitioner as a ready reference book, and to the student as a guide in the study of Materia Medica.

# Pamphlets Received

A Case of Leukemia of the Splenic Myelogenous Variety, by Otto Lerch, A.M., M.D., Ph.D. (Reprint from the *New Orleans Medical and Surgical Journal*).

A Case of Lepra, Trophic Type, by Otto Lerch, A.M., M.D., Ph.D. (Reprint from the *New Orleans Medical and Surgical Journal*).

On the Use of Valerianates of Creosote and Guaiacol in the Treatment of Pulmonary Tuberculosis, by A. B. Briggs, M.D. (Reprint from the *New York Medical Journal*).

Removal of Upper and Lower Jaws Through the Mouth Without Incision, by B. Merrill Ricketts, Ph.B., M.D. (Reprint from the *Railway Surgeon*).

Heart of Tortoise; Observations, by B. Merrill Ricketts, Ph.B., M.D. (Reprint from *Virginia Medical Semi-Monthly*).

Ligation of the Common Carotid Artery for Trifacial Neuralgia, with Experiments and Observations Upon Dogs, by B. Merrill Ricketts, Ph.B., M.D. (Reprint from *Journal of the American Medical Association.*)

Deaths (Ten) Surgical, and Causes, by B. Merrill Ricketts, Ph.B., M.D. (Reprint from *Cincinnati Lancet Clinic.*)

Therapeutics; Past, Present and Future, by George F. Butler, M.D. (Reprint from *Medicine.*)

Removal of Tonsil and Adenoid Followed by Fatal Results, by J. A. Stucky, M.D. (Reprint from *Annals of Otology, Rhinology and Laryngology*).

Advice to Gonorrheal Patients, by Fred C. Valentine, M.D. (Reprint from *Philadelphia Medecal Journal*).

Excision of the Right Superior Cervical Ganglion of the Sympathetic for Glaucoma, with Report of Case and Review of Literature of the Surgery of the Cervical Ganglion, by James Moores Ball, M.D., Edwin C. Renaud, M.D., Williard Bartlett, A.M., M.D. (Reprint from *New York Medical Journal*).

Femoral Artery and Vein; Their Destruction Without Loss of Leg, by B. Merrill Ricketts, Ph.B. M.D. (Reprint from *Journal American Medical Association.*)

Aneurysm of the Aortic Arch; Ligation of Right Subclavian and Common Carotid Arteries, by M. Merrill Ricketts, Ph. B., M.D. (Reprint from *Journal American Medical Association*).

Cranial Injuries of Childhood, and Their Treatment, by B. Merrill Ricketts, Ph. B. M.D. (Reprint from *Virginia Medical Semi-Monthly*).

Rectal Carcinoma with Subsequent Colotomy, by B. Merrill Ricketts, Ph.B., M.D. (Reprint from *Philadelphia Medical Journal.*)

Eudoxine in Pediatric Practice, by Gustavus M. Belch, A.B., M.D. (Reprint from *New York Medical Journal.*)

Antinosine in the Treatment of Enuresis, Cystitis and Urethritis, by R. F. Amyx. (Reprint from *New York Medical Journal.*)

A Reliable and Harmless Way to Diminish and Cure Over-Fatness and the Granular Effervescent Salts, by Enno Sander, Ph.D., Ph.G. (Reprint from *St. Louis Medical and Surgical Journal.*)

Can Deafness From Catarrh be Cured? by Robert Barclay, A.M., M.D. (Reprint from the *Laryngoscope.*)

Fair Play for the Doctor that Recommends the Specialist; a Hint to Both, by Robert Barclay, A.M., M.D. (Reprint from the *St. Louis Medical Review.*)

Surgical Operations During Hypnotic Sleep, by Arthur McDonald, M.D. (Reprint from *New York Medical Journal.*)

Study of the Hypnotized State, by Arthur MacDonald, M.D. (Reprint from the *Medical Summary.*)

# Practical Therapeutics.

**The Revision of the Pharmacopeia.**—A. L. BENEDICT* briefly outlines what he considers an ideal treatment of galenicals by the Pharmacopeia: 1. There should be only one active liquid and one solid preparation of each drug, adapted for internal use. 2. These preparations should be of definite strength, either with reference to the crude drug or the active principles. 3. All preparations for external use should be of safe, maximum strength for application. 4. For ointments, there should be duplicate or more preparations, of the same active contents, but differing in base, so as to allow an organic fat and a mineral salve to be used at will. 5. Every galenical should be officinal for every drug to which it is applicable. 6. Unless required by physical and chemical properties, there should be no galenicals of definite simple substances, with the possible exception of ointments. Whenever the use of a solution is necessary, because of volatibility, deliquescence or caustic properties, it should be as concentrated as possible. 7. A wider range of vehicles should be adopted; chocolate, syrups and confections should be more often employed. 8. Fine distinctions of terminology, such as between aqua and liquor, spirits and tincture, should be dropped. 9. The number of galenicals should be greatly reduced. Most vegetable drugs would be represented by a fluid extract and an abstract. 10. The nomenclature should be revised so as to accord with the best chemical and botanic knowledge, except for some of the newer drugs. 11. In dealing with plants, the Pharmacopeia should either officialize only drugs in common use or of marked value, or it should aim to be a complete list of the activities of plants and should officialize every medicinal plant. 12. Dosage should not be dictated, though it may be included in the description of the drug as a matter of convenience.

**A New Solution of Iodin for Local Application.**—C. A. ELSBERG.† The ordinary tincture of iodin when applied locally is spread over a larger area of skin than is necessary, on account of the alcohol it contains, and it is usually impossible to prevent drops of it from running down the part for some distance and staining it. Some time also is lost in waiting for successive coats to dry. The solution used overcomes these objections. It consists of a 20 per cent. solution of iodin in equal parts of alcohol and ether. It dries as rapidly as it is painted on the skin, and is of such a strength that but one coat, or at the most two coats, need be applied. Moreover, because of the rapid evaporation of the alcohol and ether mixture, it has no tendency to spread. If the area of skin that has been painted with the solution be left to itself, or if it be covered with a piece of gauze, a blister will develop. This can be prevented in the majority of the cases by covering the part with a thick layer of any bland ointment spread on gauze. Distinct therapeutic results can be obtained with this 20 per cent. solution which cannot be obtained with the much weaker officinal tincture of iodin.

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**Tetanus Treated With Tetanus Antitoxin and Carbolic Acid.**—C. W. WAGONER.* The patient, a man 20 years old, developed the symptoms of tetanus 13 days after an injury to his foot. A solution containing 12 grains of carbolic acid in 1 ounce of glycerin was ordered, of which 15 minims were injected every 3 hours. The injection was given in the scapular region, the patient having convulsive movements of the entire body only each time he was turned to receive the injection. Two days later the carbolic injections were stopped and three doses of antitoxin, 1 ounce in all, were given. No change was produced in his condition; two hours after the last dose he had convulsive movements, and on the following day there was more twitching of the muscles than usual. The carbolic acid injections were resumed, gradually increasing the dose until the patient was getting 30 minims every 3 hours. After the second day of these maximum doses, his improvement was quite perceptible and the injections were stopped after 8 days. He made a good recovery. Wet bichlorid gauze was kept constantly applied to the wound, which slowly cicatrized without suppuration. Nothing abnormal was discovered in the urine at any time while the patient was under treatment.

**Therapeutics of Kola.** — C. C. YARBROUGH.† Kola, being a general tonic stimulant acting primarily on the cerebro-spinal centers, has a wide field of usefulness. Its stimulation is peculiar in that it is tonic in effect and does not leave the secondary depression which is calculated to develop into a desire for a continuation of the use of the drug. Therefore kola should be used more frequently in cases which call for the use of some supportive and stimulant treatment. The physiologic action of kola is analogous to that of caffein, but the effect is more pronounced and prolonged. The fresh, undried kola is by far the most effective and preferable. It has proven of great benefit in putrosis and asthma; it is a decided diuretic, and therefore of service in Bright's disease, cardiac and renal dropsies, rheumatic conditions, and in conditions where a stimulus to disease is indicated. It is a valuable cardiac tonic; is of service in melancholia, alcoholism and morphinism, and in combating and preventing surgical shock. The sustaining, strength-conserving power of kola and its characteristic action make it of great value in all conditions where fatigue and exhaustion are imminent.

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